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ABSTRACT

This paper suggests a variety of topics for the National Assessment of Vocational Education (NAVE) to support as it reviews progress under the Carl D. Perkins Vocational Technical Education Act 1998 (Perkins III). Section 1 covers the task most closely related to the legislation itself, which is to examine how community colleges and other postsecondary institutions have responded to the key requirements of Perkins III. The requirements are: development of accountability measures; incorporation of academic competencies into postsecondary occupational education (PSOE) and the integration of academic and occupational education; tech prep efforts to link high schools and community colleges; allocation of federal funds; and types of institutions providing PSOE. Section 2 addresses five criteria to judge the effectiveness of PSOE programs, each of which serves as a starting point for at least two kinds of research: determining what conventional or modal practices in PSOE are and identifying promising practices for others to emulate. The criteria are labor market information and connections; curriculum and pedagogy; support services; connections to other programs; and data and improvement. Section 3 examines four issues beyond Perkins III: meaning of completion; "new fluidity" in postsecondary education; limited success of federal legislation; and the role the federal government should perform. (YLB)

Edging Toward Effectiveness: Examining Postsecondary Occupational Education

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In many ways postsecondary occupational education (PSOE) is a stepchild — even a stepchild of a stepchild. The institutions where it takes place—community colleges, technical institutes, some area vocational schools, other public training centers, private proprietary schools — are not well known and are often of low status. In federal policy, these institutions are often afterthoughts: they do not benefit from the large programs (Chapter 1, aid for bilingual and handicapped students) aimed at K-12 schooling; they are not the principal targets of the large amounts of federal funds in postsecondary student aid; and federal aid for vocational education, one of the few federal programs providing funding to both secondary and postsecondary programs, has always been written with secondary education in mind. And within the institution where most PSOE occurs — community colleges — occupational education often suffers again from second-class status relative to academic or transfer education.

But PSOE is more important than its status suggests. It is now the locus of most vocational education, at least vocational education understood as preparation for immediate employment below the baccalaureate level,² since vocational education in high schools has either been transformed into more general programs ("education through occupations" or "college and careers") or has dissipated into random course offerings. The majority of students in community colleges — about 60 percent³ — are in occupational programs; almost all the rest are enrolled for broadly occupational purposes, even if they think these will be realized through academic programs and transfer. PSOE fulfills the promise of providing postsecondary education — increasingly viewed as necessary for both individual mobility and employer needs — for the large numbers of occupations for which baccalaureate degrees are not necessary, and indeed the economic returns to subbaccalaureate education are highest for those who complete occupational programs and find related employment (Grubb 1999). The promises of "lifelong learning," so often empty rhetorical flourishes, are probably best realized within PSOE, with its large number of older students returning for skill upgrading or retraining. And when comprehensive institutions like community colleges provide PSOE, their "bridging function"—their ability to create bridges or paths from one purpose to another — involves PSOE in a web of other programs and purposes. In this role, students who enter community colleges for remedial purposes, "experimenters" looking for a life path, welfare recipients, dislocated workers, or others in job training and adult education programs can find a way into the mainstream of economic life.⁴

If PSOE is more important than is often recognized, then it merits more research than is currently available. Like PSOE itself, research on this corner of American education has been badly neglected. Most of the research on vocational education concentrates on the secondary level; most of the research on community colleges focuses on transfer or academic education, or on the high-status "economic development" role of providing training for particular firms. And so PSOE has rarely had its day in the sun.⁵ I therefore begin (rather than end) this paper with the researcher's conventional plea: *more research is needed*.

In this paper I suggest a variety of topics for the National Assessment of Vocational Education to support as it reviews progress under the Carl Perkins Vocational and Applied Technology Education Amendments of 1998, or Perkins III. The task most closely related to the legislation itself is to examine how community colleges and other postsecondary institutions have responded to the key requirements of Perkins III, and I cover these in Section I. They include the development of accountability measures; the incorporation of academic competencies into PSOE and the integration of academic and occupational education; tech-prep efforts to link high schools and community colleges; the allocation of federal funds; and the types of institutions providing PSOE.

However, while federal legislation for occupational education has addressed several important ways of improving PSOE, it has never been especially comprehensive, particularly in its approach to postsecondary issues. In Section II I therefore shift to a variety of topics intended to address the effectiveness of PSOE, using a five-part conception of the institutional conditions necessary for effectiveness as well as proposing certain research related to outcomes. This section is consistent with the broader purpose underlying federal legislation for vocational education, which has always stressed program improvement.

In Section III I examine four issues that are perhaps more important than any of the others presented in this paper: the question of who counts as "completers" in PSOE, almost certainly the most vexing question to PSOE administrators; the "new fluidity" in postsecondary education and its potential threat to established programs; the question of why federal legislation in many areas related to vocational education and training has often had unsystematic effects; and the correlative question of what role the federal government should perform. These issues are not raised directly in Perkins III, and these issues are not included in the congressional mandate to NAVE. But they represent the most pressing current developments in PSOE and the central dilemmas in federal policy toward PSOE. Therefore ignoring them may consign NAVE to irrelevance and the eighth circle of hell,⁶ and can only ensure that federal legislation remains out of touch with current problems.

In Section IV I draw together the various *issues* presented in the first three sections into *research strategies*. Typically, each kind of research encompasses several issues; for example, the case studies of community colleges I propose could encompass a variety of issues, including local practices about integration, accountability, and tech prep as well as participation with other education and training providers. Furthermore, the various research strategies are related to one another: a broad sample of providers could respond to questionnaire surveys; a smaller sample of these institutions could become case studies; and a smaller sample of these could be the starting point for "community case studies" examining the variety of programs in a community. I will therefore cross-reference the research presented in Section IV to the issues presented in Sections I-III, and vice versa.

Finally, since I propose too many issues for NAVE to support, I briefly present my own priorities for research in Section V.

Too often, proposals for research become little more than laundry lists of topics with little coherence, and certainly this paper could be critiqued for precisely that flaw. However, there is one central issue underlying virtually all of the research proposed in this paper: *how do we make postsecondary occupational education more effective?* This question is addressed in a few ways in Perkins III (Section I), though the approaches to effectiveness could be broadened, as I argue in Section II. And failure to consider some basic issues of current conditions will mean that future legislation is not especially powerful in improving effectiveness, which is why the topics in Section III are so important.

The stress on effectiveness is also, in my view, the way to think about equity in PSOE. The current equity problems are not, with a few exceptions, those of access to PSOE, since community colleges and other

institutions providing PSOE are usually open-access institutions with low tuition, low opportunity costs, and high levels of both state and federal subsidies. The problems experienced by the groups who are the usual focus of equity efforts—low-income students, minorities, women seeking access to nontraditional employment, older students, dislocated workers, handicapped students, and other "nontraditional" students — are instead those of movement through these programs, of completion rather than noncompletion, of the coherence of learning and its value in the labor market. While there are some issues specific to equity and particular groups, particularly those considering support services (in Section II.3), the greatest improvement in equity would come simply from improving the quality of PSOE for all students.

Finally, the issue of effectiveness is one way of creating a compelling vision, or policy narrative,⁷ for postsecondary occupational education. In secondary vocational education, such a compelling vision has emerged in the "new vocationalism" (or "education through occupations," as I prefer to label it, or David Stern's conception of "college and careers") — in which academic and occupational competencies are integrated, in which school-based and work-based learning are linked, in which high schools are thoroughly restructured into smaller units (academies, clusters, or pathways), and in which broader forms of occupationally oriented education lead to further education as well as employment. But a comparable vision has not yet emerged for postsecondary occupational education, aside from the vision underlying most federal postsecondary policy — which has been simply to expand access through student aid and, more recently, tax credits. A compelling complement (not alternative) to the vision of access is a vision of effectiveness — and this idea underlies much of the research proposed in this paper.

I. The Issues in Current Federal Legislation

The current legislation contains several specific provisions that are particularly germane to PSOE. They can be investigated in various ways, including questionnaires to postsecondary institutions (the basis for the previous NAVE). However, because questionnaire results often seem unreliable, I recommend that they be supplemented in virtually every issue with case studies, to understand better *how* the intentions of Perkins III are being met (or ignored).

I.1: Accountability and Performance Measures

Many observers feel that the most novel element of Perkins III is its requirement that states develop at least four measures of state performance. States that do not make adequate progress in their own performance measures are threatened with having their state plans disapproved and their funding eliminated (Section 121e) and, in addition, incentive funding under the Workforce Investment Act (WIA) is allocated on the basis of performance measures for Perkins III, job training, and adult education. The final consequence of the state performance measures adopted is that local programs are to be evaluated by the "State adjusted levels of performance," and those not making substantial progress are required to develop local improvement plans (Section 123). Unlike the former legislation, therefore, there might be real consequences to poor performance under these new performance measures. I note that the development of these accountability systems requires both *state* measures, used for comparison across states, and *local* measures, used to identify low-performing local programs and improve their performance so state measures can improve. While local indicators should be tied in some way to state measures, they could be different, and the sanctions a state uses with local program could go beyond the improvement plan required in Perkins III.

The new provision generates a variety of obvious questions. The first is what state measures the different states have adopted, and then what local indicators they have adopted — questions that can be resolved by examining state plans (see IV.1). However, if performance measures are to be used to improve the quality of local programs, a more interesting issue is what states have done first to require or encourage local programs to meet local standards, including what forms of technical assistance or additional financing they have provided in

addition to threats like potential reductions in funding. This question can be addressed both from the vantage of the state, through questionnaires or interviews with state directors (see IV.2), and from the vantage of the local providers, through questionnaire studies (IV.3). Finally, the most important issue is how these performance measures and standards have influenced local programs, where it's important to recognize that these influences might be unintended and negative-like the "creaming" of students and the cooking of data sometimes seen in JTPA programs — as well as intended and positive. While questionnaires to local programs may elicit some of these changes (see IV.3), corroboration from local case studies (IV.4) would be necessary, particularly in uncovering some of the less positive potential effects of accountability.

I note that most of the four core measures required by Perkins III involve issues raised in other research proposed in this paper. The first core measure, related to academic and technical competencies, could be reflected by passage of licenses or industry-generated standards, for example (see III.1). The second measure, on completing postsecondary degrees or credentials, involves the complex issue of who "completers" are (see III.1), and some states may have used measures of completion other than certificates or associate's degrees. (Many colleges have begun to define early-exit options, partly for welfare recipients, that recognize earlier stages of "completion.") The third core measure, related to placement and retention in employment, could most readily be addressed with the kinds of Unemployment Insurance (UI) data reviewed briefly in Section II.6. Therefore, information about accountability measures being adopted may shed some light on other PSOE issues.

Some local programs, particularly technical institutes and community colleges, are also likely to be subject to performance measures required by WIA, either for adult services or for adult education. A question related more to the relationship among federal programs (see II.5) is how Perkins performance measures interact with WIA measures, or whether there are inconsistencies that make compliance with various indicators difficult. Again, this issue can be investigated to some extent through local questionnaires (IV.3), though case studies of local programs (IV.4) and community case studies examining the interaction among programs (IV.5) would be valuable in corroborating the responses of local institutions.

One question raised with the new performance requirements is whether the costs of complying with Perkins III outweigh the benefits to PSOE—particularly in those states that have made little progress since Perkins II in developing data systems that can be used for accountability. (This is a new version of an old complaint about federal policy: "the tail wags the dog," in the sense that small amounts of federal funding have disproportionate influences on local programs.) Federal funding accounts for a small proportion of PSOE and of most local programs, especially in comprehensive institutions like community colleges (see I.4). Some institutions may decide that the burdens of participating in performance measures outweigh the benefits of small sums; therefore research should be alert for indications that local programs have forgone federal resources. This issue is in turn related to the question of what role the federal government should play in PSOE (III.4): if the federal government hands out trivial sums of money and requires inordinate costs for compliance, then its help on balance may be no help at all.

1.2: Incorporating Academic Competencies and Integrating Academic and Occupational Education

Perkins III is filled with language exhorting and requiring PSOE to incorporate a range of academic, occupational, and technical competencies, and the first of eight requirements of local uses of funds specifically provides for the "integration of academics with vocational and technical education through a coherent sequence of courses." It must be acknowledged that the purpose of stimulating broader and more integrated programs, through this and other provisions in Section 135 (including the "all aspects of an industry" provision), are accompanied by language permitting local programs to spend federal funds on a wide variety of activities, so that local programs can comply with federal requirements without paying the least amount of attention to this

requirement for improvement (see III.3). Nonetheless, one of the central changes of Perkins II, continued in Perkins III, was the attempt to move away from the kind of "narrow vocationalism" often critiqued by the business community (e.g., Committee for Economic Development 1985, p. 15) toward a broader and more integrated conception of PSOE, parallel to a similar effort at the secondary level.

The most obvious task is to learn more about what local institutions have done to implement this provision. The prior NAVE conducted surveys of local programs to ascertain changing practices, and such questions could easily be included in questionnaires to local institutions (see IV.3). In my view, the earlier study generated local responses that were exaggerated; for example, 38.5 percent of institutions reported starting tandem courses — coordinated academic and occupational courses — before 1991-92, even though all my other experience with community college indicates that such courses are quite rare.⁸ (See also Badway 1998, for a more extended argument and evidence that the prior NAVE had a low threshold for compliance with the integration requirements in Perkins II.) One possible interpretation is that, since the previous surveys were done quite soon after Perkins II was enacted, they represented hopes and dreams rather than reforms already implemented. Now, however, with an additional six years for implementation, it should be easier to see what local programs have put in place.

However, the possibility for exaggeration is still high, particularly because these surveys are completed by central administrators whose knowledge of what happens in classrooms is usually somewhere between limited and zero (Grubb and Associates 1999, Ch. 8). Therefore, any replication of this survey should be complemented by case studies of local colleges and other providers (see IV.4) to see precisely how academic competencies are incorporated or integrated into PSOE. These local case studies should ideally include interviews with occupational deans and instructors to get their perspectives on such integration, on what has been accomplished, and on the (inevitable) barriers to integration. However, while self-assessments of teaching practices are reasonably accurate under some circumstances, they are invariably exaggerations (Mayer 1999) and they fail to convey precisely what happens within classrooms—as the observation-based writing of Grubb and Associates (1999, Ch. 7) and Perrin (1998) illustrates. Therefore, the case studies should include observations of occupational classes and integrated classes to examine the extent and form that integration of academic competencies take.

Some community colleges collect good longitudinal evidence on their students, and potentially this could be used to examine the effects of integration on progress and subsequent success (see IV.11). For example, where some occupational classes are linked with academic classes and some are not, it may be possible to compare the subsequent success of students in the two different settings. While obvious problems of selection and self-selection may be present, NAVE researchers ought at least be alert to opportunities for further analyses of local data.

1.3: Tech Prep

Starting in Perkins II, tech prep is a vision of linking the last two years of high school with two years of community college, where the links could (and should) include the reform and integration of curricula at the two levels as well as mechanisms to enhance the transition between the two. At least in theory, tech prep is a mechanism that would encourage more "noncollege bound" students to attend postsecondary education, and to enroll without the need for remedial education that has become so pervasive.

However, like many of the aspects of work force development programs, the term "tech prep" has taken on several meanings among local educators: sometimes it refers to efforts to integrate academic and vocational education, sometimes to simple articulation agreements between high schools and colleges, and sometimes to school-to-work programs incorporating some work-based learning. There's been a substantial amount of research already on tech-prep programs, including a national evaluation (Hershey Silverberg, Haimson, Hudis,

and Jackson 1998) as well as many studies by NCRVE (e.g., Bragg, Layton, and Hammons 1994; Bragg 1996; Grubb, Badway, Bell, and Kraskouskas 1996); Debra Bragg is now in the midst of an evaluation of the effects of tech prep, supported by NCRVE. Most of these find incomplete implementation of tech prep, with local programs usually incorporating components (like articulation agreements or integrated curricula at the high school level) but very few developing truly integrated programs.

Another finding, particularly important for postsecondary institutions, is that the most substantial changes have been at the high school level, with changes (including curricular changes) in community colleges relatively less common. In the early days of tech prep this was due to the fact that students ostensibly in tech-prep programs had not yet reached community colleges; even in Bragg's current research, the number of completers is still small. Three research strategies seem obvious. One is to continue Bragg's research, now scheduled to end this year, as a way of gathering more information about the eventual completion (or noncompletion) of students in the postsecondary component of tech-prep programs. Another is to include examination of tech-prep programs in the institutional case studies (IV.4) to learn more about the curriculum developments (if any) and the barriers at the postsecondary level; the marginal cost of such research would be small. The final strategy is to incorporate some questions into the questionnaire surveys of community colleges (IV.3), parallel to those asked in the previous NAVE; as is true for the integration of academic and occupational education, the earlier results constitute a benchmark and it will now be possible to see how much progress there has been and what kinds of postsecondary institutions seem to have made the most progress.

However, it's difficult (at least for me) to imagine that further research on tech prep will lead to powerful new insights. The finding of incomplete implementation of tech prep has emerged over and over again, and is likely to be rediscovered yet one more time. Therefore, I suspect that the most interesting question to be asked of tech prep programs is why federal legislation has so often led to partial reforms and "business as usual," even when the underlying ideas are widely celebrated (see IV.3).

1.4: Where Does the Money Go?

A basic question to be addressed in NAVE is the question of how federal funds under Perkins III are spent. This can be addressed in several ways: by examining state plans and supporting fiscal documents (IV.1), and by examining both the *pattern* of spending and the *process* by which decisions about Perkins funds are made in local institutions, through case studies (IV.4).

In the past, a great deal of Perkins funds have been spent on normal expenditures and routine reforms—new equipment, for example, or updating courses in ways that might be thought to be the responsibility of local programs using state and local resources. This is explicitly allowed in Perkins III, which permits funds to be spent to "initiate, improve, expand, and modernize quality vocational and technical education programs," but it is contrary to the intent of program improvement in any more fundamental sense. One potential reason why this has been true is that most local public institutions are funded through formulas that seem to have academic programs in mind. There is no recognition for the variation in costs among programs, and no routine allocation for capital expenditures; thus high-cost occupational programs, and those with extensive requirements for up-to-date equipment and workshops, must often grovel for extra money and must use federal funds for what seem like routine expenditures of keeping programs up to date. One way to examine whether this common complaint explains the uses of federal funds is to examine whether the patterns of spending, and the process by which federal funds are allocated, are different in states with cost differentials in funding and explicit funding for capital equipment, or whether the patterns and processes are different in institutions like technical institutes with funding dedicated to occupational programs, compared to patterns in comprehensive community colleges. This is also part of examining why federal funds for occupational education and other work force development programs have so often been ineffective in fostering improvement (see IV.3).

Another dimension of the flow of federal funds is how large they are relative to other funds spent in local institutions. In both questionnaires (IV.3) and case studies (IV.4), the relative importance of Perkins funds can be ascertained. Then one question is whether institutions with relatively high fractions of their funds from Perkins use the revenues in ways different from those with relatively low levels of funding.

This research could take the opportunity to track all federal funds into a variety of postsecondary institutions. This can be done both through case studies (IV.4) and questionnaires (IV.3) completed by fiscal officers, at least to determine the variety of federal funds from student aid as well as other sources (like the Fund for the Improvement of Postsecondary Education or the National Science Foundation). Grants and loans should also be examined from the federal perspective, using federal data (e.g., from the National Postsecondary Student Aid Surveys) on the amounts of grants and loans to community colleges and technical institutes (see IV.8). One puzzle that has never been fully answered is why community colleges and technical institutes receive such relatively small fractions of grants and loans, compared with the numbers of students (or low-income students) they serve (e.g., Grubb and Tuma 1991), and a specific investigation of this issue might generate recommendations of how to change the administration of grants and loans—at either the federal or local levels—to facilitate the flow of these funds to PSOE students.

Finally, an enormous new source of federal funds was "appropriated" in 1996 with the Hope Tax Credits and the Lifelong Learning Tax Credits, amounting to perhaps \$6 billion per year. The amounts provided through the Hope Tax Credits were pegged to average community college tuition levels, as if these credits could enable all students to attend at least two years of postsecondary education free of charge.² However, tax credits are awkward and potentially inequitable mechanisms of funding, particularly to low-income students whose taxes may not be sufficient to allow tax credits to be of any use. Therefore a separate study should try to estimate the flow of these two tax credits to students in sub-baccalaureate postsecondary institutions generally and in PSOE in particular. Alternative methodologies may be necessary: one is to survey students to see what proportion of those in community colleges and technical institutes (and in four-year colleges) applied for these tax credits; from the federal perspective, IRS records can provide information on the total amounts of these tax credits claimed and they can in theory identify the types of institutions attended since taxpayers qualifying for these credits must identify the institutions they attended. The distribution of these tax credits is a sufficiently broad issue that NAVE might be able to join forces with other research organizations—for example, the College Board, with its continuing interest in the funding of postsecondary education—to examine these funding patterns.

Federal funding for PSOE is particularly complex because the funds are partly direct expenditures to institutions (e.g., Perkins III and FIPSE), partly direct expenditures to students (grants and loans), and partly tax expenditures to students (in Hope and Lifelong Learning Tax Credits). One question that should be incorporated in any overall examination of the federal role in PSOE (see IV.4) is whether this mix of funding—inadvertent and unplanned—is the most effective and equitable way to support PSOE.

1.5: Types of Postsecondary Institutions

While the majority of PSOE, and of funds through Perkins III, is surely spent in community colleges, there are many other postsecondary institutions that provide PSOE, many of these poorly understood — except, perhaps, by those within them. These include technical colleges and institutes, which provide two-year associate's degrees but are (unlike comprehensive community colleges) generally confined to occupational subjects;¹⁰ area vocational schools (the Regional Occupation Programs and Centers in California, the BOCES in New York), which often provide various certificates to adults; postsecondary programs operated by local educational authorities, which include adult schools in many states and some vocational schools and career centers; some vocational centers operated primarily with job training funds that may also receive some Perkins funds and provide certificates similar to those offered in community colleges or area vocational schools; and other hybrids and consortia too varied to name. Perkins III recognizes institutions of higher education (community

colleges and technical institutes), LEAs providing postsecondary education, area vocational schools, postsecondary institutions operated by the Bureau of Indian Affairs to any Indian tribe, educational service agencies, and consortia (Sec. 3 (10)).

A useful exercise would be to catalogue the variety of these postsecondary institutions, to determine the amounts of federal funds going to each, the enrollments and types of credentials granted, and the trends in these enrollments. The sources of data could include national data sets like NPSAS and the Beginning Postsecondary Surveys, state enrollment and expenditures data, and federal sources on the allocation of Perkins funds. There's a boundary problem to confront: the types of institutions considered will differ if the starting point is (a) the universe of institutions receiving Perkins funds; (b) the institutions reported in a particular national data set, like NPSAS or BPS; or (c) data collected from states on their definitions of postsecondary programs. One task, therefore, would be to examine how various ways of identifying these institutions affects the numbers and types of institutions considered.

To examine trends, however, data over time would be necessary. It appears, for example, that technical institutes are converting to comprehensive community colleges,¹¹ as part of a larger historical process of replacing specialized institutions with comprehensive ones. Area vocational schools also seem relatively unimportant, except perhaps in certain states that have maintained systems of them; in other cases they have been upgraded into technical institutes. But the information on which my observations are based are random and incomplete; a more systemic study could identify the patterns throughout the country more accurately.

While the descriptive purposes of examining enrollments and funding patterns are useful, a purpose more consistent with the theme of effectiveness is to examine the types of programs offered. There are certainly some highly sophisticated programs being offered by these varied institutions, like the two-year programs in technical fields offered by the Texas State Technical Colleges. On the other hand, many area vocational schools and career centers appear to offer short (e.g., 15-week) programs for relatively unskilled occupations, quite similar to the short-term job training programs offered by JTPA that have proved so ineffective.¹² More generally, the economic benefits of short PSOE programs are varied and uncertain (Grubb 1999), at least compared to longer programs and associate's degrees. Any study of the varied types of postsecondary institutions should try to uncover data on their effectiveness—either by finding local follow-up studies or perhaps state UI wage record data (see II.6 below) — to see whether more can be learned about the labor market value of such programs. In the absence of more specific state or local data, however, my concern is that institutions providing short-term training are relatively ineffective.

1.6: Substate Allocation of Perkins Funds

One persistent aggravation among PSOE administrators is that federal legislation requires states to allocate Perkins funds according to the number of students receiving Pell grants (Section 132), presumably in an effort to allocate more funding to institutions with low-income students. However, the number of Pell recipients is not necessarily a good indicator either of the number of students in PSOE or of the concentration of low-income students, partly because Pell grant recipients include many academic students and therefore don't reflect needs for PSOE; partly because many PSOE students are part-time and therefore ineligible for Pell grants; partly because many of them are older and do not appear to apply for grants and loans; and partly because the rates of receiving Pell grants may be related to factors — e.g., the amount of information provided to students, the extent of assistance with student aid, the sophistication of students in dealing with institutions — that have nothing to do with the needs for PSOE. One study might therefore examine alternative methods of allocating funds, to see what difference it makes to the overall distribution and to weigh the consequences of different allocation formulas. Alternatives might include, for example, the number of students in PSOE, where enrollments in PSOE could be defined in various ways; the total enrollments in local institutions, on the assumption that Perkins aid should be potentially available to all students in subbaccalaureate institutions; the

number of PSOE students weighted by local income, to allocate more resources to institutions in low-income areas; the number of PSOE students weighted by the local unemployment rate, to distribute more funds to low employment areas; or some measure of the size of the sub-baccalaureate labor market, to tie funding to the extent of appropriate employment rather than enrollments. Each of these (and other) measures would change the distribution of funds and the incentives on local programs. This information would also be useful in considering the potential direction that federal policy toward PSOE might take (see IV.4).

II. Beyond Perkins III: Five Principles for Effective PSOE Programs

Since the early 1960s, one of the central purposes of federal aid for vocational education has been program improvement. Most recently, in Perkins II and now in Perkins III, improvement has principally been defined as the integration of academic and occupational education, the creation of tech-prep programs, and the development of performance measures to reflect outcomes. However, there are many more dimensions to effectiveness than these three particular approaches, and NAVE ought to consider research related to effectiveness and program improvement that goes beyond the conception embedded in Perkins III.

In examining effectiveness, there is often no substitute for analyzing outcomes, and I propose several ways to research outcomes in Section II.6. However, often it is impossible to measure outcomes. In other cases, changes need to be considered before long-run outcome measures can be available, and in any event evidence of poor outcomes is literally useless without some sense of what kinds of improvements might enhance outcomes. Therefore it is almost always necessary to have some idea of what elements of PSOE programs are necessary for greater effectiveness, in addition to (and sometimes instead of) information about outcomes. Over the last several years I have developed five criteria to judge the effectiveness of many types of occupational education and training programs, based on my reading of the available evaluation and econometric literature and on the characteristics of particularly effective programs.¹³ Others may differ about whether these are precisely the right criteria and about how important each of them is, but they at least provide a starting point for thinking about effectiveness — and the potential research that might illuminate improved practice. Each of these five criteria therefore serves as a starting point for at least two kinds of research: determining what conventional or modal practices in PSOE are, and identifying promising practices for others to emulate.

II.1: Labor Market Information and Connections

Effective programs understand the local labor market, and target those jobs that are likely to employ individuals with community college credentials, with relatively high earnings, strong employment growth, and opportunities for individual advancement. Some community colleges do this through careful local needs assessments; others, particularly those with extensive cooperative programs, accomplish this by maintaining stable links with local employers. Programs in high employment areas, and many programs during the current economic boom, can get away with ignoring this recommendation, of course, though probably at the expense of long-run effectiveness. But those colleges that fail to consider the hiring requirements and the quality of jobs for which they provide occupational preparation are likely to place individuals in minimum-wage positions with few prospects for advancement, with dismal results over the long run.

There are various mechanisms by which local institutions can keep abreast of labor market patterns and trends, including formal labor market assessments, advisory committees, the local contacts of individual instructors, placement office, follow-up studies, and — most impressive of all — the contacts afforded by high-quality cooperative education programs. However, the extent of these efforts varies substantially, and some — for example, advisory committees that meet once a year for ceremonial functions, or placement offices that stress low-quality "stay-in-school" jobs, or instructor contacts that are uneven and idiosyncratic — are not much use at all (Grubb 1996b, Ch. 6). Thus, contact with local labor market conditions is far from automatic in PSOE, and may need improvement in many cases.

Two kinds of research are possible. One is to ascertain how the mechanisms that potentially connect local programs with employers and labor markets actually function, through local case studies (see IV.4). An adjunct to such a study would try to identify best practices from around the country, to provide guidance to community colleges and other PSOE providers about the most effective ways of maintaining connections with local employers.

The second and complementary study would question *employers* about their practices—particularly about their proclivity to hire from local PSOE programs rather than other sources, their preferences for experience over formal schooling, the kinds of promotion practices they use and the role of formal PSOE in promotion. Some observers have concluded that many employers — at least those at the sub-professional level—hire on the basis of skills attained regardless of the source of those skills, so that community colleges students compete with those trained in the military, those who have learned through experience, and others who have picked up skills in informal or self-taught ways. In other cases, licensing requirements, company policy, and formal or informal agreements with local colleges create tighter linkages between formal PSOE and employment. Further analysis of employer practices — through either survey methods, interviews (see IV.8), or the analysis of several local labor markets (see IV.5) — would help clarify where employment practices encourage rather than discourage hiring from local PSOE programs.

II.2: Curriculum and Pedagogy

Effective programs contain an appropriate mix of academic (or remedial, or basic) education, occupational skills, and work-based learning, in the best cases integrated with one another. In addition, while flexible and innovative scheduling may be necessary, the intensity of both academic and vocational education must be appropriate to the jobs being targeted. Finally, effective programs pay attention to the pedagogy of everything they teach, whether classroom-based or work-based.

This principle, which really embodies three interrelated conditions for effectiveness, clarifies the obvious point that PSOE is an *educational* program. If the fundamental conditions for learning are not present, then PSOE can at best serve as a signal of motivation, ability, or some other valued characteristic but cannot make students more productive. Research under this principle is potentially vast, since there is virtually no analysis in this country of the effectiveness of different approaches to curriculum and instruction (Achtenhagen and Grubb 1999). One strand includes the research on the incorporation of academic competencies proposed above in Section I.2.

Another strand could include more focused research on work-based learning, and its integration with other components of instruction. Despite the recent interest in this country in work-based learning, and the small amounts of funding from the School-to-Work Opportunities Act, work-based learning is comparatively rare in most community college (except in certain fields like nursing). The questionnaire-based surveys of community colleges provide one opportunity to ask about the extent of work-based learning, though such results would no doubt simply replicate those available from earlier studies (e.g., the Bragg studies cited earlier). The case studies (see IV.4) are probably more effective ways to ascertain the role of work-based learning, including the resources available to support it, the nature of its integration (if any) with the rest of the curriculum, and (potentially) measures of effectiveness if the case study institutions have adequate data on student outcomes.

The other topic that has been virtually unexplored in the area of curriculum and pedagogy is the nature of teaching in PSOE. Aside from one chapter describing occupational classes in Richardson, Fisk, and Okun (1983) and an analysis of occupational teaching in several chapters of my recent book (Grubb and Associates 1999), there's been nothing written about the nature and challenges of teaching in postsecondary occupational subjects. (For a broader review of the international literature, see Achtenhagen and Grubb 1999.) From the

work that has been done, I have argued that occupational teaching is in many ways more complex than academic teaching: it incorporates a greater variety of competencies or "intelligences"; more settings, typically including classrooms, workshops, and sometimes job placements; different and often more demanding forms of reading, writing, and mathematics than are taught in conventional academic classes; a greater number of literacies including specialized diagrams and charts as well as conventional writing and mathematics; and distinctly different approaches to teaching that I have labeled "skills" versus "systems" approaches, paralleling the distinctions between behaviorist and constructivist teaching in other subjects. Yet for all this complexity, PSOE instructors receive virtually no preparation in teaching (save in Iowa and a few isolated community colleges), and most postsecondary instructors learn how to teach through trial and error. The classroom observations I have recommended as part of institutional case studies (see IV.4) could readily be extended into a special study of its own. This special study might, for example, concentrate on PSOE teaching within selected occupational areas, or within occupational areas subject to licensing or to industry-generated standards (see IV.1), or within institutions where instructor training is practiced. In any of these forms, its central purpose would be to further investigate the nature of pedagogy in PSOE, the origin of different instructors' approaches to teaching, and the potential ways of improving instruction.

Finally, I should acknowledge the difficulty of addressing questions of the appropriate intensity for PSOE programs. The dismal outcomes of job training programs are due in substantial part to their limited duration and intensity; within PSOE, the economic returns are clearly higher to those completing associate's degrees than to individuals with certificates taking shorter amounts of time or those with varying amounts of coursework. If more is better, then how much is enough? And when is more too much? One way to examine this question is to examine the industry-generated standards and licensing requirements described in Section IV.1, since these specify from the *employer's* perspective how much education is enough for various positions. Another is to examine the debates within occupational fields about the intensity of postsecondary education, though this discussion can take place only in occupations where there is some kind of organization—either an industry association, a licensing body, or an association of instructors—to convene such a discussion. For the moment, the former seems an easier starting point.

II.3: Support Services

Effective programs provide a variety of support services, as appropriate given the needs of their students. While PSOE may be principally an educational program, an institution that fails to consider the need for support services may have low completion rates and fail for that reason alone. In community colleges and other forms of PSOE, five kinds of support services seem particularly important for students in occupational education:

- **Guidance and counseling mechanisms:** Particularly for "experimenters" unsure of what they want to do, or dislocated workers looking for alternative occupation, or welfare recipients seeking a way back into the labor force, guidance and counseling is particularly important. Guidance and counseling *mechanisms* could include introductory courses or project-based efforts to get students to learn about occupational alternatives and the efforts of occupational instructors themselves, and not simply the efforts of guidance counselors in their offices. The Puente program in California, which creates learning communities of instructors along with counselors, provides another interesting model of integrating counseling into instructional programs.

However, as in high schools, there are many complaints about the adequacy and type of counseling available in community colleges and other postsecondary institutions; counselors are often criticized for providing information solely about academic issues and transfer, neglecting career-oriented counseling. While instructors and administrators can describe what happens within their own institution, there seems to be no central source of information about postsecondary guidance and counseling, no established conception of the developmental

processes involved in adult decisions about careers, no conventions about good practice. NAVE could provide a substantial service to PSOE by carrying out, perhaps as part of case studies (IV.4), an analysis of what's now available in postsecondary guidance and counseling and some method of developing conceptions of good practice.

- **Remedial/developmental education:** The problem of underprepared students in all postsecondary programs has grown substantially, and PSOE is no exception. Community colleges and technical institutes typically provide some forms of remedial or developmental education, though the type and quality of these programs varies enormously, and almost nothing is known about the effectiveness of these programs in helping students complete their goals. In the best cases, individual instructors have developed their own approaches (often constructivist) through trial and error, or a developmental studies department has devised a coherent policy, or instructors have linked developmental courses with occupational courses in learning communities. (See also I.2 above, on integrating academic and occupational education for remedial purposes). In others forms of PSOE, remedial education may be missing, or students may be directed to adult education programs of varying (and mostly abysmal) quality.¹⁴

The nature and effectiveness of remedial/developmental education is a large subject, applicable to most postsecondary institutions, and this is not an issue that NAVE can readily research on its own. As with many other questions, the case studies of local institutions (see IV.4) provide one opportunity to examine the nature of these efforts, their relationships (if any) with occupational programs, and (if institutions have good enough data) their effectiveness. However, NAVE might also explore the possibilities for joint research with other government agencies and centers concerned with the quality of postsecondary education.

- **Retention programs:** The issue of who is a completer, and whether completion as defined by certificates and associate's degrees is important, is one of the most vexing questions in PSOE, one that I examine more fully in Section IV.1. For the moment, however, it is sufficient to point out that community colleges have made various efforts to increase retention and completion. They can be categorized as sorting, supporting, connecting, and transforming strategies (Beatty-Gunther 1994), and the best community colleges use a variety of them. Again, institutional case studies (see IV.4) provide the easiest ways of learning more about the nature of these efforts and their interactions with occupational programs more specifically.
- **Placement efforts:** In occupation-specific forms of education, the benefits may be lost unless an individual finds employment related to his or her field of study. Results from national data confirm that the economic returns to PSOE are much higher when individuals find related employment, especially among women (Grubb 1997 or 1999); and some preliminary California results based on UI data corroborate these findings. Therefore, occupational education by itself may be necessary but not sufficient to gain access to well-paid employment, and placement efforts may be necessary as well. Again, local case studies provide low-cost ways of examining what community colleges and other local PSOE programs now offer.
- **Services for students with disabilities:** Because community colleges are open-access institutions with relatively low spending levels, the diagnostic procedures to identify students with learning disabilities are often weak, and services to help such students are often inadequate. Community college instructors report that they suspect having students with learning disabilities, but do not know how to help them and have nowhere to refer them. Such students often end up in remedial classes, which may not be appropriate. While I am not the right person to recommend how to address this issue, a fuller analysis of support services would consider carefully the availability of such disabilities and their effects on the progress of the students themselves as well as their effects on other students.

II.4: Connections to Other Programs

Effective programs provide their clients or students with pathways or "ladders" of further education opportunities, so they can continue their education and training when they are able to. One issue of creating such pathways in PSOE involves the link between high school and community college, in the tech-prep programs described in Section I.3 above. The other common linkage is that between community colleges and four-year colleges, in articulation mechanisms to smooth the process of transfer. In many occupational areas—e.g., business, computers and information technology, engineering technology, some health occupations—the possibilities of transfer are substantial, and both instructors and institutions provide encouragement and support (like transfer centers); in other areas — automotive areas, metal trades, construction trades, cosmetology — there are no comparable baccalaureate-level programs and so articulation mechanisms are scarce. The possibility of and support for transfer should be one of the issues incorporated into local case studies (see IV.4).

However, the most important kinds of connections for NAVE to investigate are probably the connections among different types of occupational education and training programs. These connections — the efforts to create more coherent systems of work force development encompassing short-term job training, adult education, welfare-to-work programs, training for incumbent workers, and occupational education in postsecondary institutions — have been the subject of substantial research by NCRVE (see Grubb et al. 1999, for the latest effort) as well as research by the earlier NAVE (e.g., Hollinger and Harvey 1994). However, changes in federal legislation — particularly the Workforce Investment Act (WIA) of 1998 and the changes in welfare legislation passed in 1996 — have substantially changed the conditions within which local programs operate, and therefore new research may be warranted. In particular, the emphasis of both welfare legislation and WIA on "work first" conceptions—in which individuals are first placed in employment without worrying about their competencies — contradicts the human capital emphasis of PSOE, and the resolution of this conflict is a central issue.

The issues involved in relations with other programs include the provision of services and special programs for welfare recipients (if any); the ways PSOE institutions participate in state and local Workforce Investment Boards; the incorporation of PSOE into information and services provided by local one-stop centers, which play a central role under WIA; the eligibility of PSOE for the Individual Training Accounts (ITAs) provided some individuals, the numbers and types of individuals who actually use ITAs to attend community colleges and other forms of PSOE; and the difficulty PSOE institutions have in meeting WIA accountability measures (see I.1 above). The period within which NAVE will operate—with data being collected roughly between summer of 1999 and summer of 2001 — will be one of substantial turmoil, as states create Workforce Investment Boards under WIA and begin planning local efforts, and therefore it may be possible only to understand how PSOE is participating in this process and not what the outcomes are.¹⁵

One way to carry out this research is again to incorporate questions about participation in WIA into the questionnaire surveys (see IV.3) and local case studies (IV.4). However, because these issues involve interactions between PSOE and other programs, it would be far better to conduct research examining WIA efforts and welfare programs as well as PSOE. This can be accomplished with community case studies, where several communities are identified and all the programs within these communities providing PSOE, job training under WIA and welfare, adult education, and other forms of work force development are examined to learn about their interactions (see IV.5).¹⁶ In this way the perspectives of each program about the others can be ascertained, rather than viewing the cooperation among programs solely from the vantage of community colleges and other PSOE institutions. Of course, the communities selected for such studies could be a subset of the communities in which the institutional case studies (see IV.3) are conducted, so that the community cases studies are effectively extensions of the institutional case studies.

II.5: Data and Improvement

Effective programs collect appropriate information about their results and use these to improve their quality. In the case of PSOE, these informational issues include the development of accountability measures, examined above in Section I.1, and the development of state and local data on employment outcomes, examined in the next section.

II.6: Outcome Measures: National and State Sources

To many researchers and policymakers in particular, outcome measures—rather than the elements of program structure I have covered in Sections II.1 to II.5—are the only reliable indicators of effectiveness. The good news is that better data have become available in the last ten years, both from national data sets and from state data sets based on UI wage record data.

In terms of national studies, I have recently surveyed the available literature for the Community College Research Center (Grubb 1999), and I see no reason for replicating that survey. There are, however, some topics that have not been extensively studied, and if NAVE wants to invest in further analyses of national data, it should concentrate on these issues. One of them is the problem (see also IV.1) of whether students who complete small amounts of PSOE benefit or not; this requires disentangling the effects of field of study, the relatedness of education and subsequent employment, and student intentions (i.e., for upgrade training) on economic returns, since it's likely that all of these influence the value of small amounts of education. A second issue that merits more exploration is the effect of finding education-related employment, since this has been investigated in only one study (Grubb 1997); there are obvious selection and self-selection effects to consider, as well as alternative ways to define education and employment as being related or not. Third, the effect of local economic conditions and of the business cycle on the employment benefits of sub-baccalaureate education have not been studied, though they are arguably quite important. A study reanalyzing certain data sets — particularly the Survey of Income and Program Participation and the National Longitudinal Study of Youth — could address these unanswered questions (see IV.8).

States have made great progress in developing data based on UI data. A few states have been leaders in these efforts, including California, Washington, Texas, Florida, and North Carolina. However, the analyses they have carried out so far are relatively unsophisticated (partly for political reasons), and have generally been confined to a few cross-tabulations. One valuable NAVE project would therefore be to take one or more of these state data sets and carry out more sophisticated multivariate analyses (see IV.10). In addition to carrying out such analyses, such a study should consider how to translate complex findings into simpler terms, since policymakers and administrators are unable to read regression coefficients. In addition, I propose in Section IV.1 using these state data, in conjunction with other information, to carry out further analysis of the complex issue of completion.

One other use of state UI data would be to conduct an outlier study. In the school effectiveness literature, particularly effective (and ineffective) schools were identified with regression analysis of test scores controlling for family background and school resources; schools with high positive residuals were then considered especially effective, and case studies were conducted to see how they differed from other schools. Similarly, in the realm of job training, Chris King and his colleagues (King, Lawson, Olson, Trott, and Baj 1998) selected especially effective JTPA programs in Texas and Illinois based on earnings over 155 percent of poverty and on continuous employment. The outliers they visited were committed to a structured process for determining high demand and emerging occupations; they emphasized occupational skills training rather than short-term job search assistance and on-the-job training; they stressed certain support services, including intake, assessment, counseling, and case management continuing throughout the program and afterwards; and they constrained the choices of training activities, referring individuals only to approved providers and only in high-demand or

emerging occupations. (These characteristics correspond to the principles articulated in Sections II.1, II.2, and II.3 above.) A similar outlier study could be conducted of community colleges, for example, by using regression analyses of a state's UI data, identifying programs with high placement rates and earnings controlling for student characteristics and local economic conditions, and visiting those programs to see what characteristics of effectiveness are present. Such a study would build on the reanalysis of a state's data (see IV.10), and then add a small number of additional case studies.

III. Beyond Perkins III: Other Crucial Issues

The topics suggested in Section II move beyond the provisions of the Perkins Amendments of 1998, but they do not address other fundamental issues about the context of PSOE and about the nature of federal legislation. In discussions with occupational educators and researchers, a small number of these other issues emerge again and again, and they could form the basis for other research studies.

III.1: The Meaning of Completion

By far the most vexing problem to occupational educators is the question of what constitutes completion. In conventional analyses, completion of PSOE is marked by receipt of an associate's degree—typically requiring about 60 credits including a sequence of occupational courses, related academic courses, and general education requirements—or a certificate, typically requiring about 30 credits in occupational subjects only (though some certificates are shorter or longer).¹⁷ Associate's degrees and certificates are typically defined and recognized by states, they show up on transcripts, and in my reading of course catalogues they usually require a relatively coherent group of courses. Completion has substantial economic benefits, including "program" or "sheepskin" effects (Grubb 1999); many policymakers feel it should be encouraged, and completion rates are among the performance measures required by both Perkins III and by WIA. But rates of completion in PSOE are quite low, and this has been a continual embarrassment to community colleges and other providers.

However, many students who leave PSOE without associate's degrees or certificates may nevertheless complete what they set out to accomplish. These include at least two distinct categories:

- (1) Some students, particularly those needing upgrade training, intend to enroll only for a course or two. These students are more likely to be employed, to be older, and to continue in the same job. Students needing retraining, including dislocated workers, may switch occupations, but they too may enroll for only the number of courses they need to find a new position; they are also likely to be experienced workers. One way to identify these "completers" is through their intentions; some community colleges that collect data on student intentions report that large fractions of older students claim to want only a few courses. Under some circumstances, the same may be true of students needing remedial education.
- (2) Students may complete credentials other than associate's degrees or certificates. These include licenses, including those required for health professions, cosmetologists and other personal service workers, some construction trades, aviation mechanics licensed by the Federal Aviation Administration; the kinds of industry-generated certificates (IGCs) created by industry associations with voluntary standards, including such groups as NATEF (the National Automotive Technicians Educational Foundation) and the American Welding Society; and some IGCs created by individual companies, such as the credentials offered by Novell and Microsoft to those individuals training specifically on their software. If students learn enough to pass such licenses and IGCs, they may leave PSOE and appear to be drop-outs when they have in reality completed a credential with, arguably, some value in the labor market. Finally, some community colleges have begun to modularize occupational programs and create shorter credentials or early-exit options, partly to recognize the reality that students leave before completing credentials, and partly to provide welfare recipients with credentials with the allowable

training period. Whether these credentials have any market value is unclear, though no doubt there is local lore in specific colleges.

The fraction of "dropouts" who are really "completers" in one of these two senses is currently unknown. PSOE administrators and instructors can relate many stories about specific students who are completers in these ways, but their implication-that *all* PSOE students are really completers-is surely not true. Given the importance of this question to conceptions of effectiveness, as well as to information about the changing conditions of PSOE, NAVE might carry out studies specifically to examine the conception of completion.

There are at least two parts to such research. One, of course, is the investigation of student intentions. The ideal study would either create a survey of student intentions-or use one that community colleges are now using-and then verify the results through student interviews (see IV.7). The importance of interviews is that some students who are really "experimenters" may exaggerate their intentions, or may state intentions (like transfer and completion of a B.A.) that are socially acceptable but unstable;¹⁸ it's equally possible that older students searching for a substantial change in employment state intentions for completing only a few courses until they figure out the alternatives. This component of research could also try to link student intentions to information about student outcomes, either from institutional records or from UI data, to examine the match among intentions, courses and degrees completed, and employment outcomes.

The second component requires examining the receipt of licenses, IGCs, and other non-standard credentials. The problem is that the sources of information are varied. Of course, questionnaires to students about such credentials is one source of information, though response rates to student surveys are typically very low. Information about state-required licenses could come from states, and in a few cases from colleges that administer licensing exams; information about IGCs could come from the industry associations themselves. In theory these different sources of information could generate information about which individual students in a specific college and in a particular cohort have completed such credentials, and then UI data or other follow-up data could be used to ascertain their subsequent employment and earnings. One alternative is to choose a few community colleges in relatively well-defined labor markets, in states with adequate UI data, and use them as test cases to develop both the methodology of track alternative credentials and their effects on employment.¹⁹

The development of IGCs presents still another issue for NAVE to address. In this country, interest in skill standards has led to a series of pilot projects funded by the Department of Labor to create standards in 22 industries. However, IGCs are evidence of industry-generated standards (or IGSs) that have already been created by industry associations who feel a need for such standards and credentials, rather than being artificially created by government sponsorship. A study of such IGSs and IGCs could focus on a limited number of such industry groups, ascertain how widespread such standards and credentials are, how widely they have been adopted by community colleges and other PSOE providers, what their use by employers is, and what value they have in hiring, promotion, wage setting, and other aspects of employment.²⁰ The appearance and the apparent expansion of IGSs and IGCs provides a natural experiment in skill standards, one that could shed considerable light not only on the developing conditions of PSOE but also on the conditions under which skill standards are likely to be effective.

III.2: The Environment of PSOE: The "New Fluidity"

There's a new day dawning in PSOE, many observers report. Students accumulate credits from many different institutions, including four-year and two-year colleges; they may learn skills from company-sponsored courses or IGCs, or though the military or experience, or on the Internet or through distance learning so that the spatial limitations of conventional providers are irrelevant. Employers care about skills, not credentials, so the accumulation of skills from different sources, without credentials attached to them, is still effective in providing access to employment. In this fluid environment, the notion of entering a "two-year" college,

attending full time, progressing steadily through the requirements for general education and a major, and receiving an associate's degree in roughly two years is a rare event, an image of the past (Schneider and Stevenson 1999, Ch. 9). In the "new fluidity"-to give it a name-students draw on many providers of education and training, and the educational programs so carefully put into place by community college instructors debating the coherence of their offerings are all but irrelevant. The "new fluidity"-which may not be so new, after all-is sometimes invoked to explain why there are so few completers in community colleges, and sometimes used to describe a world of fierce competition among providers, where community colleges may lose their "customers" to the Internet, distance learning, other public and private providers.

However, it isn't clear how realistic this portrait is, or how extensive the mix-and-match practices of the "new fluidity" are.²¹ It isn't clear how students signal their skills to employers, for example, or how the pattern of earning credits from many providers can teach the competencies like SCANS skills and other higher order competencies that some employers say they want. Sometimes this scenario seems like alarmism, particularly of educators fearful of losing students, or concerned that their carefully planned programs are being trashed by student practices, and the reality might not match their fears. One option, therefore, is to explore the "new fluidity" empirically, particularly through community case studies (see IV.5 below) which would examine the variety of education and training providers in several communities — including distance and Internet providers — to see the extent to which students move among them. In addition, it would be critical to interview a sample of students (see IV.7), to see how they are putting together their own programs. This would, of course, be complementary to interviews with students intended to determine their goals in enrolling in community colleges, and whether from the outset their intentions include gathering credits from numerous sources.

If the "new fluidity" proves to be an accurate description of the direction of PSOE, it raises questions about the appropriate role of publicly funded institutions. It's possible that some kinds of education are best left to private providers or to distance learning and the Internet — for example, information-dense subjects for independent students. PSOE may have a different niche — for example, subjects where the integration of workshop and classroom learning is important, or where constructivist or systems approaches to teaching higher order competencies are important. But before it's possible to say what the role of PSOE could be in the "new fluidity," it's important to understand better what precisely is taking place.

III.3: The Limited Success of Federal Legislation

Federal legislation related to vocational education, school-to-work programs, job training, adult education, and other aspects of work force development has had, in my view, only limited success. On the one hand, it has provided support for some good ideas — for example, the upgrading of vocational education, the integration of vocational and academic learning, the incorporation of work-based or service learning with school-based learning, the efforts to link secondary and postsecondary education, the development of yet other second-chance programs for the long-term unemployed and welfare recipients. Virtually every innovation in PSOE is funded in some way or other with federal funds, and the impact of federal funding often seems much larger than the amount — "the tail wags the dog," in the conventional expression. On the other hand, the spread of these practices has been slow, partial, and incomplete. A great deal of federal funding for occupational education is spent for routine forms of program improvement — for example, upgrading equipment and courses, which is something that occupational programs ought to be doing routinely — and for relatively standard forms of remediation. Perkins II fostered a great deal of curriculum integration, but largely in the form of applied academics courses — the most pallid form of integrating academic and vocational education. Tech prep and school-to-work funds have been used to support bits and pieces of good practice-some articulation agreements, some additional guidance and counseling, some applied academics courses — but without doing much to create coherent systems with widespread participation (Hershey, Silverberg, Owens, and Hulsey 1998; Hershey et al. 1998).

Before examining the final question of what the federal government should do in PSOE, in the next section, it's important to raise the issue of why federal legislation in this arena has been so checkered in its effects — or, more precisely, to see whether there's some empirical research that might shed some light on this issue. There are several hypotheses and fruitful avenues for research:

- Many occupational educators report that state and local funding is simply inadequate for their programs, since there is (in most states) no recognition of the higher costs of certain occupational courses, of the special equipment and materials costs, and of the ancillary costs of establishing connections with employers including work-based placements. Therefore they have to scrounge for every additional dollar they can find, and federal funds are used in these ways too. The implication is that in states that do have funding for the higher costs of occupational programs, and routinized funding for capital equipment, it might be possible that federal funds are used in different ways.
- The amount of federal funding in most PSOE institutions is very small — a dated estimate is that perhaps one to three percent of overall funding in community colleges, or two to four percent of funding for occupational education come from federal sources (Grubb and Stern 1989). With such small amounts of funding, programs cannot commit themselves to larger changes that require state and local funding — and so federal funds are used for "bits and pieces" of programs, not coherent system changes. One implication is that programs that receive relatively larger amounts of federal funding may use them in distinctly different ways.
- Outside funds are often viewed differently than internal funds, since they may disappear, or have separate regulations attached to them that require administrators to keep them separate, or have participation and allocation requirements different from other funds. This usually means that outside funds are reserved for relatively peripheral activities rather than being integrated into mainstream programs.

These hypotheses, and others that could be generated through discussions with federal and local administrators, could be investigated by examining spending patterns and through interviews with local administrators. Some of these questions could be integrated into questionnaires or interviews with state directors of PSOE (see IV.2) and into questionnaire studies and case studies (IV.3 and IV.4) of local providers. Alternatively, it might be possible to identify some PSOE institutions that have used federal funds in distinctly different ways, and then identify what conditions of these institutions have influenced this difference.

This question is, of course, much larger than federal legislation for occupational education and related programs. Many federal programs — and indeed most state programs — intended to enhance the effectiveness of social programs including education have been faulted for low effectiveness in instigating reform. However, before deciding what future directions for policy might be, it is crucial to establish when federal legislation has been effective and when its influence has been only marginal.

III.4: What Should Federal PSOE Policy Be?

The culminating question, the one that in many ways motivates all the research that NAVE carries out, is what PSOE policy might be, and whether it should take a new direction in legislation subsequent to Perkins III. The question here is not what this direction might be, but whether there are research activities that might help determine the options for federal policy.

There are at least five activities that might be helpful in addressing this question:

- A review of the principles of fiscal federalism, which specifies when a federal government might provide goods and services and when a state or local government is more appropriate.²² Some understanding of

the strengths and weakness of state policy in PSOE, from IV.3 above, might be useful in this exercise.

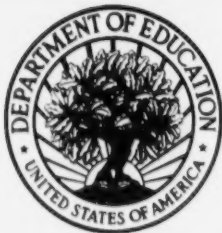
- A review of the principles and results of federal legislation in other areas of education and job training, including the effectiveness of such policies. For example, policy in K-12 education has tended to provide funding through categorical programs like Title I rather than through student funding as in postsecondary policy.
- An analysis of other countries and their efforts to create PSOE policies might be useful, particularly if the examination concentrated on countries reasonably like our own—for example, Australia with its federalist system, Great Britain with its free-market approaches—rather than countries like Germany and Japan with very different institutional and government histories.
- A consensus-generating exercise might be useful, bringing together a variety of federal, state, and local administrators and policymakers, to identify the current strengths and weaknesses of different levels of government. This exercise might start, for example, with a paper outlining a broad array of options for federal policy — or for a joint conception of federal and state policy—based on other activities, and then have participants weigh the alternatives from a variety of perspectives.
- All NAVE contractors could be required to include a section on implications for federal policy at the end of their reports. This will at least force individuals to question what potential implications there might be of the very different kinds of information they collect.

In general, these activities seem pallid in comparison with the task of specifying new directions for federal policy. This is perhaps because the broad outlines of policy are not usually created from rational exercises like this, but rather from a more extended process of discussion, debate, and consensus.²³ However, because there has been so little explicit thought given to what federal policy in the arena of PSOE should be, NAVE could at least begin the discussion through the activities I have outlined.

continue



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